

A Framework for Physical Activity Programs Within School–Community Partnerships

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School-community partnerships have shown their potential as incubators for innovations and for contributing to comprehensive physical activity (PA) programs. However, implementation frameworks for school-community partnerships that allow local tailoring of PA programs remain scarce. The present paper aims at documenting the composition of a framework for PA programs within school-community partnerships. The framework addresses socioecological strategies to promote extracurricular PA opportunities for pupils, which are integrated into five complementary components. To implement and reinforce the five components of the framework, involvement of schools, pupils, family, and community is facilitated by sustainable partnerships between these stakeholders. Partnerships are not only recommended on the school and community level, but also on a broader regional level that covers multiple communities. The development of the framework was an effort to integrate school-community partnerships into a flexible implementation framework for PA promotion. Implications of the framework for research agendas, professional education, and policy are formulated.

Generally, youngsters' physical activity (PA) levels have decreased and drop-out rates from sports have increased (Brettschneider & Naul, 2007). This trend is troubling because PA and sports participation during childhood and adolescent years links to better physical and mental health (Biddle, Gorely, & Stensel, 2004; Janssen & Leblanc, 2010). According to evidence-based recommendations, school-age youth should participate daily in 60 min or more of moderate to vigorous PA (MVPA) that is developmentally appropriate, enjoyable, and involves a variety of activities (Strong et al., 2005). In 2006 the World Health Organization (WHO) coordinated 'Health Behavior in School-aged Children' (HBSC) study conducted in forty western countries revealed that participation in MVPA is generally low,

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with only 16–26% of 11- to 15-year-old children reporting PA levels that meet the MVPA recommendation (Currie et al., 2008).

Since young people of diverse socioeconomic backgrounds spend a substantial amount of time at school, researchers and policy makers have recommended utilizing the school setting for the promotion of PA (Cale & Harris, 2006; Fox, Cooper, & McKenna, 2004; Pate & O'Neill, 2008). The authors of *Healthy People 2010* recommend that physical education (PE) is offered on a daily basis and that PE programs require pupils to engage in MVPA during at least 50% of class time (US Department of Health and Human Services 2000), as long as the other primary objectives (e.g., learning motor skills for lifelong PA, learning to enjoy PA, self-management, TASK-orientation, etc.) are not jeopardized (Armstrong & McManus, 1994; Corbin, 2002). Although the recommendation is to promote PA during PE classes, primary objectives for PE are diverse and relate not only to PA promotion. The available time to reach these objectives is limited and even the best school PE programs do not provide enough PA to meet health-related recommendations (McKenzie, Marshall, Sallis, & Conway, 2000). Consequently, a 'whole school' approach may be most effective in the case of PA promotion (Timperio, Salmon, & Ball, 2004). Although the importance of classroom-based health education or PE for the promotion of an active lifestyle in youth is recognized as these curricular approaches could provide youngsters with the competencies (motor, social, cognitive) necessary to engage in the PA opportunities provided, as well as in an active lifestyle more generally (Bailey et al., 2009), PE hours are increasingly restricted due to constrained school funding (Ludwig & Pollack, 2009). This implies a growing importance of extracurricular programs as an additional source of learning and PA opportunities. Therefore the present paper focuses mainly on the recommendation to create extracurricular opportunities for PA through the school environment, school policies, school culture, and community links (Fox et al., 2004), while not ignoring that future studies could investigate how these extracurricular approaches could interact with curricular activities in, for example, the 'community school' (Lawson, 2008). Focusing on extracurricular approaches, community links could be realized by constructing local strategic partnerships between schools and organizations from other sectors of the community. Moreover, community links could maximize young people's PA opportunities (Cale & Harris, 2006; De Martelaer & Theeboom, 2006).

The realization of school-community partnerships to increase PA opportunities is supported by theoretical frameworks for health promotion (King, Stokols, Talen, Brassington, & Killingsworth, 2002; McLeroy, Bibeau, Steckler, & Glanz, 1988; Sallis et al., 2006), by research reports (Gillies, 1998; Harris et al., 1997; Leatherdale, Manske, Faulkner, Arbour, & Bredin, 2010; Naylor, Macdonald, Warburton, Reed, & McKay, 2008) and by an increased recognition from policy organizations (Lawson, 2010). First, theoretical frameworks such as socioecological models of health promotion, for example, consider pupils' PA levels as the result of transactions among multiple levels of influence and recommend using multisectoral partnerships to target intervention strategies in multiple settings (King et al., 2002; McLeroy et al., 1988; Sallis et al., 2006). Second, intervention studies of whole school approaches using school-community partnerships such as the active school model (Naylor et al., 2008), cross-sectional studies of associations between school policy and pupils' PA levels (Leatherdale et al., 2010) and reviews (Gillies, 1998;

Harris et al., 1997) have provided evidence for the potential of school-community configurations. Third, policy organizations have acknowledged the potential of school-community configurations, such as community schools, as incubators for policy innovations (Lawson, 2010) and have monitored such configurations for educational or public health purposes in several countries (Blank, Melaville, & Shaw, 2003; NISB, 2008; Scottish Executive Education Department, 2003).

However, papers on frameworks for school-community partnerships that help implementing key strategies to increase PA opportunities and allowing local tailoring of PA programs remain scarce (Lawson, 2008). The aim of this paper was to present the design features of a framework for PA programs within school-community partnerships, while illustrating the conceptual foundations and literature that supports these design features. The development of the presented framework was ordered by the Government of Flanders (Belgium) and is part of an action plan that aims at providing practical guidelines for schools and community partners to develop extracurricular PA programs.

Design Features and Conceptual Framework

Several studies have revealed the potential of school-based interventions that include family and community links and apply multiple strategies to promote PA in youth (Dobbins, DeCorby, Robeson, Husson, & Tirilis, 2009; Timperio et al., 2004; Van Sluijs, McMinn, & Griffin, 2008). Theoretical frameworks such as socioecological models of health promotion support such a multistrategy approach and argue that health behavior is determined by multiple influences at intrapersonal, interpersonal, organizational, community, and policy levels (McLeroy et al., 1988). Table 1 shows how each of these levels can be addressed strategically with regard to the promotion of PA opportunities for pupils. Extracurricular strategies are further integrated into the framework's components and guidelines for school-community partnerships, which will be discussed in the following sections.

Composition of the Framework: Five Components

The presented framework integrates five extracurricular components, as shown in Figures 1 and 2. This configuration is consistent with recommendations of Cale and Harris (2006) to provide young people with PA opportunities beyond the school curriculum.

The five complementary components of the framework include (1) sports and PA during lunch break, (2) active schoolyards or playgrounds, (3) active commuting to school, (4) health education policy, and (5) after-school sports and PA.

Components 1 and 2 target school break periods. Pupils' PA could be maximized by allocating more time for school break periods that offer supervised activities or simple low-cost interventions (Jago & Baranowski, 2004; Wechsler, Devereaux, Davis, & Collins, 2000). For *component 1 (sports and PA during lunch break)*, schools could organize sports and PA programs during lunch break. It is recommended that these programs are adapted to the interests and profiles of all pupils (e.g., gender, skill-level) and orientated to noncompetitive PA transferable to leisure time activities (Cale & Harris, 2006, Scheerder et al., 2006). Schools are also advised to vary content of lunch break physical activities to reach more

Table 1 Social-Ecological Strategies of the Framework

Ecological level	Strategies
Intrapersonal level	Health education and physical education*
Interpersonal level	Social support by teachers, family and stakeholders of the school-community partnerships
Organizational/ structural	Provision of extracurricular programs in school and community Lifetime activities Activity choice and student-centered pedagogy Environmental approaches within the school (e.g., provision of sports and play equipment during breaks, opening up school facilities after school hours) Physical activity (PA) team and PA coordinator at school
Community	Partnerships between school and community stakeholders and shared goals
Policy	Facilitating measures of municipal services for the provision of PA programs (e.g., increase of the number of accessible facilities in the community) Physical education teachers partly freed up from teaching to promote PA as ‘sport and PA leaders’ Regional organization: administrative support and expertise exchange

* Physical education is not integrated in the framework because the paper is focusing on extracurricular opportunities for PA.

pupils (Centers for Disease Control and Prevention [CDC], 1997). For *component 2 (active school yards)*, schools could create more active school yards by providing pupils with space, facilities, and extra game and sports equipment during all school break periods (Haerens, De Bourdeaudhuij, Maes, Cardon, & Deforche, 2007; Verstraete, Cardon, De Clercq, & De Bourdeaudhuij, 2006; Wechsler et al., 2000). Schools could ask staff to act as supervisors, encouraging pupils to be active and to take advantage of the opportunities provided for PA during breaks (CDC, 1997; Wechsler et al., 2000).

Component 3 is the promotion of active commuting to school (by foot and/or bike). Potential positive effects of active commuting to school include higher daily levels of PA and being more likely to meet PA recommendations (Cooper, Andersen, Wedderkopp, Page, & Froberg, 2005; Davison, Werder, & Lawson, 2008). Facilitating and ensuring the safety of pupils is an important issue, particularly since parental concern about children and adolescents’ safety has been reported to be a strong explanatory factor for preventing pupils walking or cycling to school (Haerens et al., 2010; Kerr et al., 2006; Panter, Jones, van Sluijs, & Griffin, 2010).

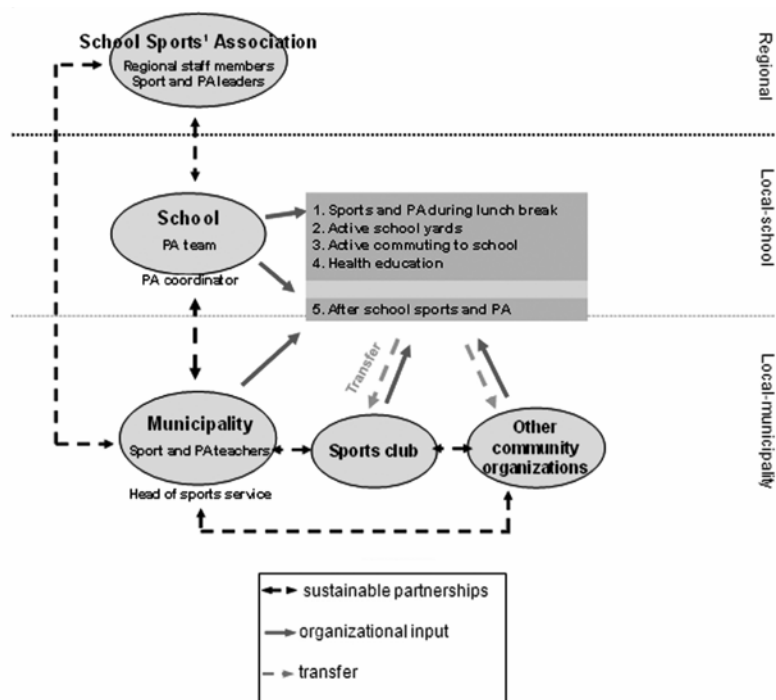


Figure 1 — Framework for PA programs within school-community partnerships (elementary schools).

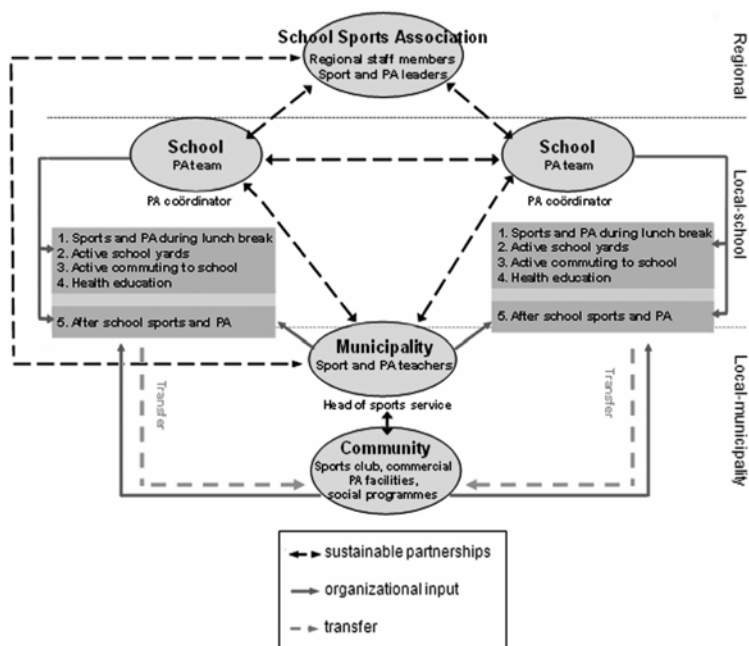


Figure 2 — Framework for PA programs within school-community partnerships (secondary schools).

Environmental changes to successfully tackle these safety concerns could include the creation of traffic free zones around schools, speed restrictions in school zones, sidewalk and bicycle lane improvements, and the introduction of walking school buses or bike pooling (Boarnet, Anderson, Day, McMillan, & Alfonzo, 2005; Timperio et al., 2006).

Component 4 consists of an integrative and collective health education policy. First, this policy aims at providing health messages to pupils during extracurricular hours, which alert young people to their own PA levels and the importance of PA and assist them in taking responsibility for their own PA levels (self-management). We propose this policy to be integrative and collective because it is a shared responsibility of the entire school staff and, considering that youngsters spend a part of their lives in the home and neighborhood environment, also of community partners and parents. Schools could advise their staff to integrate health messages with PA programs during lunch break and after school, and to actively supervise pupils' free play, as supervision has been reported to be positively related to participation in extracurricular activities (Haerens et al., 2009; Sallis et al., 2001). Such a policy could be shared with the community where a large proportion of youth attends after-school programs of local youth organizations (Goedseels, Vettenburg, & Walgraeve, 2000; Ross, Dotson, Gilbert, & Kate, 1985). Parents could also be actively involved and contribute to this integrative and collective policy by modeling an active lifestyle, encouraging youth to play outdoors and make activity-related equipment available at home (Davison & Campbell, 2005). Second, the proposed health education policy aims at providing pupil-centered and autonomy-supportive learning environments in which young people are able to choose out of a range of activities and in consequence have increased autonomy in decision-making (Deci & Ryan, 2000). Pupil-centered learning environments are recommended by constructivist based research that confirms the importance of pupils actively constructing knowledge and getting pupils actively engaged in learning PAs (Rovegno & Dolly, 2006). Rovegno (2006) discusses such research in PE and refers to the potential of cooperative learning strategies, including pupils' critical assessment of each other's performance, peer teaching, discovery tasks, and active-role taking (e.g., leader, referee, etc.). Rovegno also argues the need for supervisors of PA programs to facilitate these learning strategies by adapting learning content to pupils' prior knowledge and providing the right verbal and visual cues.

For *component 5*, the organization of after-school sports and PA, it is advised that after-school programs can start immediately at the end of the school day, to meet the needs of pupils and working parents (Barnett, O'Loughlin, Gauvin, Paradis, & Hanley, 2008; De Martelaer, De Knop, Theeboom, & LeBlicq, 2002). Consistent with the after-school program principles recommended by Coatsworth and Conroy (2007) and Seghers, De Martelaer, and Cardon (2009), a wide range of games and sports could be offered with an emphasis on play, fun, and recreation, and not solely on competition. It is important to offer activities with the greatest transfer to life beyond school (Fairclough, 2002), which appear to include (for girls often moderate intensity) activities requiring little structure and few partners, such as walking and jogging, exercise, bicycling, other outdoor activities, and dance (Bélanger, Gray-Donald, O'Loughlin, Paradis, & Hanley, 2009). Moreover, it is advisable to consider pupils' PA preferences, especially in the case of children (Haerens et al., 2010; Sallis, Prochaska, & Taylor, 2000). To encourage high attendance after-school PA programs could provide very attractive activities and facilitate

transport to and from school. The inclusion of community organizations may also be beneficial to increase participation and behavior change (Jago & Baranowski, 2004; Pate & O'Neill, 2009).

A common priority of the frameworks' five components is to facilitate participation of at-risk-populations. Specific at-risk populations for low levels of PA include young people of lower socioeconomic status (SES), minority groups, lower-skilled and overweight youngsters, and girls (Borracino et al., 2009; Fulton et al., 2009; Lubans, Morgan, Cliff, Barnett, & Okely, 2010; Sallis et al., 2000). In lower SES children and adolescents, the combined use of both psychosocial (e.g., awareness raising through PA monitoring) and environmental strategies (e.g., low cost PA programs in or near the school premises) seems promising (De Bourdeaudhuij et al., 2011; Harrison, Burns, McGuinness, Heslin, & Murphy, 2006; Jurg, Kremers, Candel, Van der Wal, & De Meij, 2006; Van Sluijs et al., 2008). For ethnic minority young people, these strategies are preferably integrated into culturally appropriate programs that are adapted to different beliefs about overweight, to concerns about neighborhood safety, and to parents' native language (Hudson, 2008; Netto, Bhopal, Lederle, Khatoun, & Jackson, 2010; Stevens, 2010).

Girls, lower-skilled and overweight young people have lower perceived competence in PA tasks than their counterparts (Stodden et al., 2008; Taylor et al., 2002; Trost & Ward, 2005). Increasing this perceived competence in an environment that also fosters high levels of autonomy and relatedness could strengthen motivation to (re)engage in more PA (Deci & Ryan, 2000). Competitive team sports and exclusive games may not be suitable for invoking such opportunities in lower-skilled pupils and girls (Portman, 1995; Turvey & Laws, 1988). Instead, activities tailored to individual capabilities, sufficient instructions, practice, and positive feedback are recommended (Gillison, Standage, & Skevington, 2006). To increase feelings of autonomy, PA programs could promote activity choices, support pupils' initiatives and offer relevant information for changing behavior (Lim & Wang, 2009). Finally, program supervisors need to show enthusiasm and interest in pupils, and encourage participation in activities that are family supported and community oriented (e.g., walking, hiking, and gardening club) (Hagger & Chatzisarantis, 2007; Hermann et al., 2006).

Composition of the Framework: Sustainable School-Community Partnerships

The framework illustrates that its five components and the after-school sports and PA program in particular can be reinforced by partnerships between the school and other stakeholders in the community, such as the municipal services, community sports clubs, commercial PA organizations, and social community programs (see Figures 1 and 2). These school-community partnerships could increase professional knowledge exchange and organizational input to execute and reinforce the framework's components. The partnerships are not only a strategy to build professional bridges between the different settings where young people live, but also a multistakeholder approach for reaching a common goal (Dooris, 2004). The main common goal is to create more opportunities for young people to be physically active and to facilitate transfer of an active lifestyle between the school and community. It is advisable that shared goals are stipulated in the partners' action plan with links to specific time frames and to the organizational input of the partners (Epstein,

2001; Goldman & Schmalz, 2008; Roussos & Fawcett, 2000). The potential input of schools and their partners as well as the objective of transfer are illustrated by the framework in Figures 1 and 2. Although curricular approaches for PA promotion are beyond the scope of this paper, this does not imply that partnerships between school teachers and the community should be considered as a less important issue.

The integration of the school-community partnerships in the presented framework reflects the growing recognition of partnerships within the health promotion literature. A review showed that durable local partnerships (school-community councils) facilitate organizational and individual behavior change (Gillies, 1998). A recent study confirmed that grade 5–8 pupils were more likely to be highly active in schools with well-established school-community partnerships. This included partnering with community-based recreation clubs and organizations, and providing staff with ongoing support and training about the establishment of effective school initiatives (Leatherdale et al., 2010). Furthermore, case studies showed that school-community partnerships facilitated by PE teachers as on-site coordinators can improve the quality and quantity of PA programs (De Martelaer et al., 2002). For example, a coordinated collaboration between several secondary schools within the same community can generate a joint after-school program. This allows secondary school pupils, where safe foot paths, cycle paths, or public transport are promoted, to commute independently between schools and to choose activities from a more extensive program (De Martelaer et al., 2002). Acknowledging this opportunity, potential interschool collaboration is included in the framework for secondary schools, illustrated in Figure 2, through the integration of more than one school.

From an ecological perspective, all schools and communities have unique contexts due to different informational, sociocultural, physical, and policy realities (Sallis et al., 2006). This implies that not one specific intervention or PA program can be recommended for a majority of schools and communities, which is a challenge for school-community partnerships. However, a common implementation framework based upon health promotion planning principles can facilitate the development of PA programs tailored to specific school and community contexts (Eime & Payne, 2009).

Levels of the Sustainable Partnerships: Community and Regional

The partnerships in the presented framework are situated at two main levels: a community level and a regional level. The community level is subdivided into the local school level and the local municipal level. At the local school level, main features that facilitate the sustainability of school-community partnerships are related to a PA coordinator and PA team, while at the local municipal level, main features are related to the ‘sport and PA teachers’ and the head of sport service. However, actions at multiple levels, thus not only on the community level, are necessary to increase the chances that schools will improve communications with communities and families in ways that benefit all pupils. Actions at broader levels will be most valuable if these assist communities, schools, and parents to implement effective PA programs and practices (Epstein, 2001). The framework consequently includes a regional level that covers multiple communities. Its main features are related to a regional supportive entity, which provides services to all communities, and the ‘sport and PA leaders’ (see Figures 1 and 2).

Before elaborating on each level's main features in the following sections, the recommendation for both community and regional levels to apply a common strategy of family and youth involvement is considered (Epstein, 2001; Lohrmann, 2010). The importance of family-centered strategies is emphasized by recent systematic reviews (De Meester, van Lenthe, Spittaels, Lien, & De Bourdeaudhuij, 2009; Van Sluijs et al., 2008) and by the Family Ecological Model (FEM) that shows how four aspects of parenting are related to children's PA behaviors: modeling, accessibility of PA options, knowledge about obesity related behavior, and shaping children's PA behavior. According to FEM, a conjunction of factors shape and constrain these parenting practices: family demographics (e.g., family income), child (e.g., gender), organizational (e.g., school environment), and community characteristics (e.g., safety), and (broader level) policy and media influences (Davison & Campbell, 2005). FEM illustrates that the context or ecology in which parenting occurs is complex and demands careful consideration in our attempts to understand the family's impact on children's activity behaviors. Even more importantly, FEM offers policy makers and practitioners a theoretically-sound and empirically-supported basis for designing family-centered strategies to promote PA. Family-centered strategies could include matching of PA promotion messages to receptive moments in parenting (e.g., when parents decide about children's opportunities for play), the provision of consistent messages, and tailoring advice to parent circumstances and the contexts in which they live (e.g., promoting PA alternatives in neighborhoods with poor access to facilities; Davison & Campbell, 2005). Complementary to FEM, Epstein (2001) frames family-centered strategies into five 'types of involvement' for school-family collaboration: assistance for parenting, regular communications between school and home, volunteering activities for parents, decision-making, and collaboration between school and community. Also children themselves can determine the success of many of the partnerships' communications among home, school, and community. For example, pupil involvement could facilitate communications about PA programs between stakeholders. Pupils could be encouraged to help carry out *traditional* forms of communication such as delivering flyers of PA programs to parents, and *new* forms of communication such as pupil-assisted PA programs where parents, pupils, and community members can participate together (Epstein, 2001).

Main Organizational and Policy Features at the Community Level (Level 1)

The School PA Coordinator (Local School Level). It is considered essential to have a person who takes the leading role at school for coordinating the partnerships with the community and the PA programs (Epstein, 2001; Kolbe, 2005; Lohrmann, 2010). A process evaluation of a 4-year project undertaken within the European Network of Health Promoting Schools (ENHPS) showed that leadership and management were crucial for a lasting health policy at school. This leadership and management were ensured through the appointment of a coordinator, preferably a school team member with appropriate status (Inchley, Muldoon & Currie, 2006). In addition to the need for a coordinator, Seghers et al. (2009) recommend that PE teachers move beyond their current role and accept the responsibility as a PA coordinator for the entire school. This recommendation seems feasible, because PE

teachers generally have the best perspective on their pupils' sports participation and PA levels. They can stimulate pupils to get familiar with the PA opportunities, and have the expertise to link extracurricular approaches of PA promotion with the PE curriculum. However, we propose that the burdens accompanied by the development of a PA policy at school and school-community partnerships are not carried solely by a PA coordinator or the PE teacher. It is important that the coordinating person receives support from the entire school staff (Epstein, 2001; Seghers et al., 2009). To realize this support, a school 'PA team' (see below) can be composed.

The School PA Team (Local School Level). The work group or school 'PA team' consists of motivated teachers who are willing to put effort into PA-related initiatives. It is also preferable that the school principal is a member of the PA team because principals have the mandate to make important decisions regarding finances and extracurricular activities organized at school, such as PA programs during lunch break or after school hours. In addition, the attendance and presence of principals is appreciated by teachers who put additional effort into planning and realizing these activities (Barnett et al., 2008; Inchley et al., 2006). Additional representatives of the pupil and parent board, and potentially also the technical personnel, could be invited to become members of the PA team to create a sense of shared ownership (Epstein, 2001; Inchley et al., 2006). Pupils can inform their PA preferences, ventilate barriers of participation, and propose ideas or community partners for new or improved PA programs. It is important to seek diverse pupil membership so that both genders are represented, there is skill diversity, and ethnic groups of the school are well-represented (Shirer, 2010). Similar to the 'Action Schools!' approach in Canada (Naylor et al., 2008) and the Belgian community school pilot project for increasing pupils' opportunities for PA (De Martelaer et al., 2002), the framework (see Figures 1 and 2) recommends that the PA team cooperates with external partners from the community and regional level, which are described later in the paper. The PA team could take action to expand cooperative PA programs and increase the connectivity with the neighborhood by opening up the school's play grounds and facilities to local sociocultural organizations promoting lifetime PA, sports clubs, and the community in general (Gorman, Lackney, Rollings, & Huang, 2007). Considering that a large majority of children attend schools, the PA team could regularly inform pupils about school-community partnerships with special attention to informing different at-risk populations.

Sport and PA Teachers (Local Municipal Level). The after-school PA program is preferably provided by PE specialists, as literature suggests that specialist-led classes are better than non-specialist-led classes in terms of pupil activity engagement and active instructional behavior (McKenzie, Sallis, Faucette, Roby, & Kolody, 1993). On the other hand, extracurricular activities are not supposed to be additional PE classes or to include the potential pressure of grades and time restriction. As described earlier, these activities are intended to offer a wide range of games and sports with an emphasis on activity choice, genuine play, fun, and recreation, and not solely on competition. As such, it is of crucial importance that the so-called 'sport and PA teachers' (see Figures 1 and 2) are continuously educated about the earlier-described pedagogical and life time PA principles for after-school programs. If correctly informed and trained, youth sport trainers could be mobilized occasionally, though it is not advisable to encourage this in elementary schools, since

youth sport trainers often don't have practical experience with concepts of youth development (Coatsworth & Conroy, 2007). Schools could act as gatekeepers and keep a close watch on the quality of this pedagogical activity.

There is a substantial challenge related to the mobilization of sport and PA teachers. The efforts for finding professional sport and PA teachers willing to voluntarily guide the after-school sports and PA program can be tiresome and time consuming (De Martelaer et al., 2002). Remunerating sport and PA teachers for their services obviously is a more viable alternative. However, this alternative is hampered by the global economic crisis of recent years in which constrained school funding has restricted resources for afterschool PA programs (Ludwig & Pollack, 2009). It is therefore recommended to apply resource efficient strategies; one of which is an integrated approach and the involvement of both school and community (Ludwig & Pollack, 2009). More specifically, schools and communities could bundle their financial resources (CDC, 1997) to remunerate sport and PA teachers for the services provided. A promising recruitment strategy that deserves more evaluation in the future is to cluster or combine small jobs spread over different sectors in the community (e.g., teaching after-school PA, providing sessions for sports clubs and local health services) into a half-time or full-time job. In the Netherlands, pilot projects of these 'combination jobs' in the sectors of sport and education have been evaluated positively (Alliance "School and Sports" & SGBO, 2007). As a result, 2500 combination jobs are being implemented in the Netherlands, assuring the appointment of only qualified teachers and aiming to expand the number of Community school PA programs (Dutch Ministry of Education, Culture, and Science, 2007).

The Municipality and the Head of the Sports Service (Local Municipal Level). As mentioned before, community organizations and the municipal services can provide resources to support the school (CDC, 1997), acting as facilitators in the framework. The municipal sports service could be responsible for the recruitment and the wages of the sport and PA teachers. In return, the municipal service could be (partially or fully) reimbursed by the school for its services. This remuneration could be made possible thanks to pupils' enrolments for the after-school program, for which the school could ask pupils to pay a modest registration fee (De Martelaer et al., 2002). Municipal or community services could also grant subsidies to schools or share community infrastructure for sport and PA programs, as this could enhance the number of initiatives taken by schools. So, besides a potential supportive function, the municipality also has an administrative task in the framework.

Furthermore, the framework recommends that the school PA team is represented in the municipal (or community) sports or health council. Depending of local configurations, members of municipal councils could attend meetings of the PA team at school. This structure allows municipal councils to facilitate partnerships between schools and diverse partners, including sociocultural organizations that offer more accessible PA programs than sports clubs (e.g., dance and walking clubs, child care services, PA counseling through family health centers). The structural integration of the community in school policy is a general recommendation from literature (CDC, 1997; Epstein, 2001; Fox et al., 2004; Lohrmann, 2010; Seghers et al., 2009; Wechsler et al., 2000) and has shown its potential in interventions (De Meester et al., 2009; Van Sluijs et al., 2008).

The following section focuses on the main policy topics at the regional level.

Main Policy Features at the Regional Level (Level 2)

School Sports Association and ‘Sport and PA Leaders’ (Regional Level). As shown in Figures 1 and 2, the framework considers the integration of ‘sport and PA leaders’ as an important policy strategy on the regional level. These are nominated PE teachers whose teaching hours are reduced by half (two to three days a week), creating more time to fulfill the region-oriented mission of (1) forming intersectoral partnerships between schools, communities, and families (2) increasing the number and the continuity of extracurricular PA opportunities for pupils, and (3) increasing pupils’ participation to PA programs at school and in the community. Half of the original teaching hours of the sport and PA leaders are replaced by hiring other qualified PE teachers, which secures the number and quality of teaching hours for PE at school. However, this system of transfer of teaching hours is dependent of extra financial investments, which may be a considerable barrier for creating sports and PA leaders in the current global recession (Ludwig & Pollack, 2009). It also requires a quality PE teacher education (PETE) that delivers competent successor-PE teachers, especially in areas with small reserves of qualified PE teachers.

The framework illustrates that the sport and PA leaders could be embedded within the professional structure of a regional entity that serves multiple communities, such as a School Sports Association. In this article, the term ‘School sports’ (in contrast to the denotation of traditional school sports involving formal competition at different levels, including international representation in youth sport), reflects a broad spectrum of PA with a minimal focus on competition or tournaments, and with special attention for the needs of pupils that don’t meet PA guidelines. A School Sports Association (SSA) is a government-funded organization with the mission of promoting PA in all its contexts (e.g., also active commuting) using evidence-based strategies. In Belgium such SSAs are common and interviews with the school principals and community partners revealed that within these associations partnerships with sport and PA leaders were evaluated positively by all partners (De Martelaer et al., 2002).

How to Link the Regional Level to the Community Level. It might be suggested that the ‘sport and PA leaders’ act, as Peterson, Rogers, Cunningham-Sabo, and Davis (2007) recommended, like ‘linking agents’ who can promote research-based guidelines from the regional level into the community. In other words, they act as a link between the guidelines for PA promotion advised by researchers and the regional SSA (resource system) on the one hand, and the local actors such as school, municipality, representatives of social PA programs, and sport clubs (user system) on the other. The regional SSA also provides a platform where the ‘sports and PA leaders’ could meet, exchange expertise, and receive opportunities for staff development. The importance of this kind of communication platform was revealed by interviews with the School Sport Coordinators in England. These Coordinators functioned within a similar intersectoral program as the sports and PA leaders, but with a more limited focus on sport rather than on PA in general. The English program also provides the opportunity for teachers to encourage schools and community sport providers to work in partnership (Flintoff, 2003).

Figures 1 and 2 show that the community level (local school and municipal level) is actively supported by administrators on the regional level. This is indicated by the integration of regional staff members of the SSA. These staff members could provide schools and municipalities with (online) manuals for the implementation of school-community partnerships and PA programs, while the sports and PA leaders could give additional advice for a more tailored approach. Recently Eime and Payne (2009) pointed out to the importance of a more tailored approach for school-based programs. In their study 59% percent of the 49 State Sports Governing Organizations delivered 'one size fits all' programs for schools, acknowledging that these programs were not effective in developing pupils' community level sports participation.

Implications of the Framework

The presented framework has important implications for three main themes: 1) for future research agendas and the further development of the framework, 2) for professional education as a facilitator of innovative school-community configurations, and 3) for policy and its objective to support school-community partnerships.

Directions for Future Research

As a first step to refine the proposed framework or develop other innovative school-community planning structures for PA promotion, research could focus on factors that constrain or facilitate partnership development and operations. Similarly, factors that constrain or facilitate the implementation of each of the framework's five components to promote PA could be identified. To do so, the framework is preferably implemented in different communities and schools. Questionnaires for stakeholders in communities and schools as well as interviews with these stakeholders could provide important information on barriers to and facilitators of implementation.

Second, prospective studies that further explore the causal relationships between the personal, interpersonal, and environmental factors (school-community-home) and pupils' PA levels are needed to formulate more recommendations for PA programs (Haerens et al., 2009).

A third step is related to the effectiveness of the framework in promoting PA in pupils. More multilevel and multicomponent interventions based on the features of the framework could be studied. It is important that these intervention studies last multiple years and that the PA intervention remains sustainable. The outcomes related to the impact of these PA interventions require follow-up data (minimum six months) so that the long-term impact can be determined (Dobbins et al., 2009). Although the framework suggests strategies for PA promotion among at-risk populations (ethnic minority, low SES, girls, overweight) the current knowledge base is not generalizable and further research is warranted (Cliff, Okely, Morgan, Jones, & Steele, 2010; Dobbins et al., 2009; Stevens, 2010).

Finally, the framework could become stronger if its extracurricular approaches are integrated with curricular learning goals. For example, research could explore how the framework's school-community structures for extracurricular PA promotion could be connected with PE goals. The integration of PE in the framework has a lot of potential because whole-school approaches to PA promotion including

curriculum, policy, and environmental strategies appear to be more effective than curriculum-only approaches (Timperio et al., 2004). Furthermore, research could explore the development of the framework toward one for PA programs within a community school. Although the framework does not yet have the community school's integrated view on curricular goals, services and opportunities, its school-community planning structures could be a sound foundation for the gradual development toward a community school (Kolbe, 2005). Lawson (2010) acknowledges this developmental pathway, implying that school communities with dynamic improvement plans can gradually evolve toward a “mature” community school.

Professional Education

If we expect schools to innovate and apply frameworks based on school-community configurations and PA promotion planning principles, professional education and PETE need to innovate simultaneously (Lawson, 2010). Innovations are necessary because many of the educational benefits claimed for PE are difficult to substantiate and dependent on context and pedagogy (Bailey et al., 2009). This flaw lies within the nature of conventional PE programs, which are not dovetailed with community programs and services, separated from health promotion and recreation, and insufficiently founded by theory and research (Lawson, 2009). In addition, curricula of conventional PE are dominated by competitive team sports and skills for techniques rather than lifetime activities and game-real situations, while the applied pedagogy is mainly teacher oriented (Kirk, 2009; Lawson, 2008). Consequently, conventional PE programs need to be revisioned and by extension, so do PETE programs. Five premises have been supported as a foundational basis of new design criteria for PE programs (Doolittle, 2009; Kirk, 2009; Lawson, 2009). First, PE programs need to be attuned to future school designs, which will more than likely integrate school-community partnerships and out-of-school time programs. This presumption is supported by a growing number of countries investing in the implementation and evaluation of community-school configurations (Blank et al., 2003; Cummings et al., 2007; Flemish Policy Research Center, 2006; NISB, 2008; Scottish Executive Education Department, 2003).

Second, PE should not strive to be treated just like other school subjects. Instead, it must recognize the characteristics that make it a unique, different, and valuable source of educational experience (Lawson, 2009). Third, Lawson suggests that we recognize the powerful forces in society that offer competing and often harmful lifestyles to young people. Fourth, PE programs must promote a healthy lifestyle beyond the school gates through effective transfer of learning (Lawson, 2009). This lifespan development perspective is constrained significantly by competitive, team games-dominated curricula, which appeal only to the higher skilled minority (Fairclough, 2002) and are omnipresent in PE programs internationally (Pühse & Gerber, 2005). According to Bailey and colleagues (2009), PE curricula that link learning of lifetime activities to the social, culture, and gender structure of society in which pupils live, are more feasible for motivating at-risk populations as well. More importantly, a pedagogy that promotes a motivational climate oriented toward enjoyment and task mastery rather than competition is key in determining positive attitudes toward active lifestyles (Bailey et al., 2009). Fifth, Lawson (2009) advises to explore the potential of PE programs both as stand-alone and combined

social interventions that involve partnerships with other helping professions to address urgent social problems. Kirk (2009) adds a sixth premise, which is that any form of PE needs to be aligned with the major dimensions of physical culture that we value and wish to transmit.

To facilitate the advocated reform, professional education and PETE could offer extensive pre- and in-service learning opportunities for (physical) educators, administrators and policy makers (Cohen & Hill, 2001), including practice with new frameworks for PA programs within school-community partnerships. Training on action planning for school-community partnerships could also be provided. Developing an action plan with shared goals is an important step toward partnerships for health promotion and is crucial for the functioning of a work group as proposed by the framework (Epstein, 2001; Goldman & Schmalz, 2008; Roussos & Fawcett, 2000).

Policy

By offering grants, regional or state policy can support universities and colleges in the development of the professional training courses we described earlier (Epstein, 2001). In terms of structural support for school-community partnerships, investments could be made to create a pool of 'sports and PA leaders' as presented in the framework. School PA coordinators could also receive perquisites such as extra planning time or other recognition for their leadership, or small grants could be awarded to schools for developing PA programs within school-community partnerships as incubators of innovations. These efforts could include a feedback mechanism to monitor the need for change and to allow for regular (process) evaluation and research, as discussed earlier in the directions for future research.

Conclusion

Literature suggests that school-community partnerships would be a sound foundation particularly for comprehensive PA programs. The development of the framework presented in this paper was an effort to integrate important principles of school-community partnerships in a flexible implementation framework for PA promotion. The framework aims to contribute to schools' and community's common objective of providing youth with more PA opportunities, which is important to help youth achieving the guideline of participating daily in 60 min or more of MVPA.

Strengths of the framework are its socioecological foundations which are complementary to school-community partnerships and recommendations for designing more effective PA interventions. Furthermore, its realization was supported by recommendations from literature. Limitations include the need for more sustainable recruitment strategies for 'school and PA teachers', the uncertainty about reaching substantial shares of nonactive pupils in after-school programs, and the need for further research on factors influencing successful implementation. Moreover, weaknesses are related to the sole focus on extracurricular approaches; the framework could become stronger if these approaches are integrated with learning goals set out for PE.

From a socioecological perspective, change toward more PA in youth will be achieved more effectively when synchronized and supported across multiple levels

in a social system. This multilevel approach cannot be implemented without the establishment of working school-community partnerships. It is therefore important that both researchers and policy makers continue to consider school-community partnerships as incubators for innovation in their efforts to create more PA opportunities for youth. The challenge for school-community partnerships remains that not one specific intervention or PA program can be recommended because all schools and communities have unique contexts due to different informational, sociocultural, physical, and policy realities. However, a common implementation framework based upon health promotion planning principles could help members of a partnership to develop PA programs tailored to specific school and community contexts. This paper represents an effort to provide such a framework. We invite both researchers and practitioners to explore its use in different communities and schools, to inform improvements after evaluation, and to develop additional implementation frameworks for school-community partnerships. Professional education could play a leading role in the dissemination of these frameworks among present and future practitioners.

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